ARKHIPOV, P.S., inzh.; TRAVIN, N.N., inzh.

Economic expediency of the continuous operation of a feed turbopump.
Elek.sta. 33 no.2:16-20 F '62. (MIRA 15:3)
(Electric power plants--Equipment and supplies)(Pumping machinery)

TRAVIN, N.N., inzh.

Regulation of the load of a 150 Mw. block using a sliding pressure technique. Elek. sta. 34 no.3:7-9 Mr '63. (MIRA 16:3)
(Electric power plants)
(Electric power distribution)

USSR.

Investigation of the Desulphurization of Pig Iron by the Soda Ash Process. O. V. Trevin and L. A. Shvartsman. (*Izvestiya Akademii Nauk S.S.S.R., Otdelenie Tekhnicheskikh Nauk*, 1953, (12), 1804–1811). [In Russian]. The kinetics of desulphurization of pig iron with sodium carbonate were investigated in the temperature range 1200–1600° C. Carbon-saturated iron practically free from manganese and silicon together with radioactive sulphur were used for the experiments. The additions of soda were made on the surface of metal in successive portions, so that before each portion was added, the previous portion had time to melt, spread evenly on the surface of metal, and then evaporate. The degree of desulphurization is strongly dependent on the temperature and concentration of sulphur in the metal. The desulphurization reaction is of the second order in respect of sulphur concentration. Fumes evolved during the process were condensed and found to contain sulphur and sodium carbonate. At the temperatures prevailing, sodium sulphide is evaporated and therefore the desulphurizing reaction is irreversible. On the basis of data obtained in experiments with iron of high sulphur content, the following stoichiometric equation for the desulphurizing reaction is proposed:

$$2[S] + (Na_2CO_3) + [C] = Na_2S_g + CO_2g + COg.$$

The removal of sulphur per unit weight of soda decreases with the square of the concentration of sulphur in the metal. The observed decrease in the efficiency of soda with increasing temperature is attributed to increased evaporation of soda.

V 7683

KINETICS OF THE PASSAGE OF SULPHUR FROM PIG IRON INTO SLAG OF THE SYSTEM $CaO-Al_2O_3$. O. V. Travin and L. A. Shvartsman. p.49-65 in Meetings of the Division of Technical Sciences. Session of the Academy of Sciences of the U.S.S.R. on the Peaceful Use of Atomic Energy. July 1-5, 1955. Moscow, Publishing House of the Academy of Sciences of the U.S.S.R., 1955. 339p. (In Russian)

The carbon and silicon contained in liquid pig iron tend to displace sulphur atoms, greatly increasing the thermodynamic activity of this element in the solution. This is one of the important reasons why pig iron can be purified of sulphur much more effectively than steel. It was thought advisable to use the radioactive isotope method for the determination of small concentrations of sulphur. For this purpose, radioactive sulphur S^{35} was introduced preliminarily into the pig together with ordinary sulphur. The experiments were carried out in a graphite cylindrical block heated by induction currents from a high-frequency generator and enveloped in an atmosphere of purified nitrogen. Four cylindrical holes 28-mm in diameter bored in the block served as crucibles in which the pig iron and the slag added were melted. Each of these holes communicated in its lower part with a thin vertical canal 6-mm in diameter. The speed of desulphurization was determined by measuring the radioactivity of samples of pig iron taken through the thin canal by suction into a quartz tube. The experiments showed that the interaction between the pig iron and liquid slags of the system $CaO-Al_2O_3$ may result in a very high degree of purification of the metal from sulphur: its content went down to as low as the order of 10^{-4} per cent. (auth)

SHVARTSMAN, L.A., doktor khim.nauk; TOMILIN, I.A.; TRAVIN, O.V.; POPOV, I.A. kand.tekhn.nauk

Effect of alkaline earths on the distribution of sulfur between iron and iron slag. Probl. metalloved. i fiz. met. no.4:577-594 '55. (MIRA 11:4)
(Alkaline earths) (Iron--Metallurgy) (Sulfur)

TRAVIN, O.V.; SHVARTSMAN, L.A., doktor khim, nauk

Investigating the desulfuration of cast iron with use of soda.
Probl. metalloved. i fiz. met. no.4:604-615 '55. (MIRA 11:4)
(Desulfuration) (Cast iron--Metallurgy)

TRAVIN, O.V.

SUROV, V.F.; TRAVIN, O.V.; SHVARTSMAN, L.A., doktor khim. nauk.

New method of studying equilibrium of the metal-slag system.
Probl. metalloved. i fiz. met. no.4:616-620 '55. (MIRA 11:4)
(Metallurgical analysis)

USSR/ Chemistry - Metallurgy

Card 1/1 Pub. 147 - 10/22

Authors : Travin, O. V., and Shvartsman, L. A.

Title : Kinetics of the transfer of sulfur from the cast iron into the slag of a $CaO-Al_2O_3$ system

Periodical : Zhur. fiz. khim. 29/11, 2031-2041, Nov 1955

Abstract : The rate of cast iron desulfurization with the slag of a $CaO-Al_2O_3$ system was investigated at different temperatures in relation to the sulfur, silicon and manganese concentration in the metal. Results showed that the rate of desulfurization is proportional to the sulfur concentration in the cast iron in a degree depending upon temperature. The degree indicator at relatively low temperatures was found to be close to one and the reaction follows a monomolecular law. The order of the reaction becomes fractional at higher temperatures and tends toward a value of two. Seventeen references: 10 USA and 7 USSR (1936-1954). Tables; graphs; illustration.

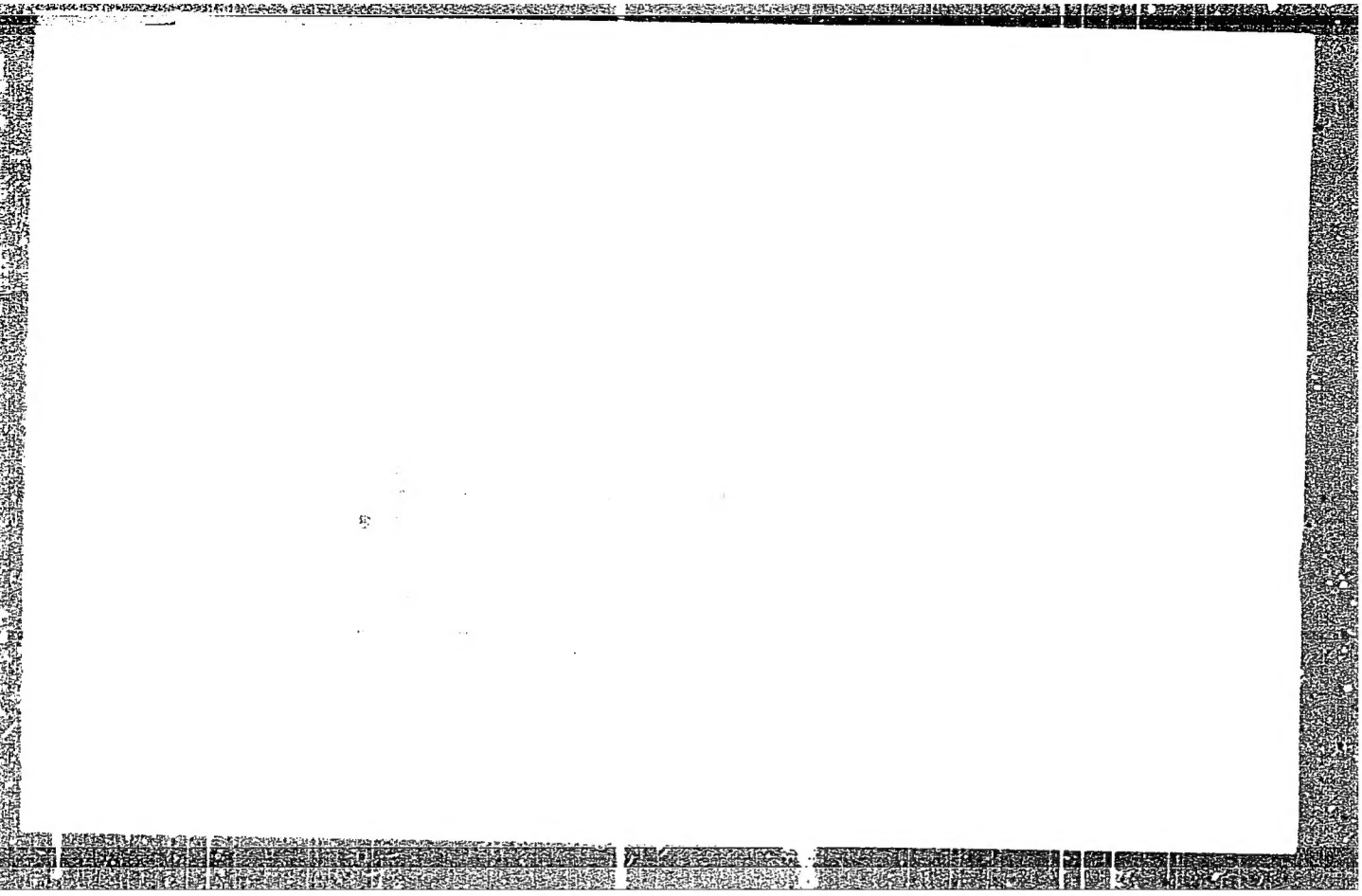
Institution : Inst. of Metallography and Phys. of Metals, Moscow

Submitted : February 9, 1955

TRAVIN, O. V.

Travin, O. V. - "Investigation of the Kinetics of Desulphuration of Cast Iron Using Slag of the $CaO-Al_2O_3-SiO_2$ System." Min Higher Education USSR. Moscow Order of Labor Red Banner Inst of Steel imeni I. V. Stalin. Moscow, 1956 (Dissertation for the Degree of Candidate in Technical Sciences).

So: Knizhnaya Letopis', No. 10, 1956, pp 116-127



APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R001756510013-2"

137-1958-2-2338

TRAVIN O.V.

Translation from: Referativnyy zhurnal. Metallurgiya, 1958, Nr 2, p 19 (USSR)

AUTHORS: Surov, V.F., Travin, O.V., Shvartsman, L.A.

TITLE: A New Method for the Study of the Equilibrium in a Metal-Slag System (Novyy metod izucheniya ravnovesiy v sisteme metall-shlak)

PERIODICAL: V sb.: Fiz.-khim. osnovy proiz-va stali. Moscow, AN SSSR, 1957, pp 291-295. Diskus., pp 382-334 (Transl. Ed. N.: 332-334)

ABSTRACT: The method is based on the use of radioactive isotopes. A slag of known composition, with a known content of a radioactive element (the distribution of which is studied), is fed in small doses onto the surface of a molten metal, the latter being contained in a crucible hollowed out of magnesite brick. The crucible is surrounded by a dam made of magnesite powder. The interaction occurring between the metal and the slag causes the metal gradually to become saturated with the radioactive element, and the counting rate from the metal samples taken increases. When the counting rate has remained constant for a number of successive metal samples, this is taken as evidence that equilibrium has been attained. The temperature of the metal surface is continuously checked with a pyrometer. To keep the metal from oxidizing, a nitrogen shield is used. This

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A New Method for the Study of the Equilibrium (cont.)

method was used to determine at various temperatures the distribution of P between a low-carbon Fe and a slag consisting of 33.6% CaO, 2.1% Na_2O, 28.4% Al_2O_3, 4.6% SiO_2, 1.8% MgO, 25.0% FeO, 6.3% Fe_2O_3, and 2.1% P_2O_5. The results obtained are quite accurately stated by the equation:

$$\log K_P = \log \frac{(\%P)}{[\%P]} = \frac{16,000}{T} - 6.94 .$$

K_P was determined from the ratio of the counting rate of an original slag sample to the counting rate of a metal sample taken after equilibrium had been attained. This method was used also to determine the distribution of S between Fe and slags consisting of: 1) 50% CaO and 50% Al_2O_3; 2) 45% CaO, 45% Al_2O_3, and 10% MnO. In both cases the heat flow from the Fe to the slag was nearly 40 kcal/gram atom.

I.T.

1. Metal slag systems--Application 2. Equilibrium--Test methods
3. Equilibrium--Test results

Card 2/2

TRAVIN, O.V.

137-1958-2-2345

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 2, p 20 (USSR)

AUTHORS: Shvartsman, L.A., Tomilin, I.A., Travin, O.V., Popov, I.A.

TITLE: The Effect of the Oxides of Alkaline Earth Metals on the Distribution of Sulfur Between Iron and Ferruginous Slag (Vliyaniye okislov shchelochnozemel'nykh metallov na raspredeleniye sery mezhdu zhelezom i zhelezistym shlakom)

PERIODICAL: V sb.: Fiz.-khim. osnovy proiz-va stali. Moscow, AN SSSR, 1957, pp 304-318. Diskus., pp 332-334

ABSTRACT: The radioactive isotope S^{35} was used to study the dependence on the temperature of the distribution of S between Fe and a slag consisting of Fe oxides. The results are described by the equation

$$\log K_s = \left(\frac{3000}{T}\right) - 1.05 ,$$

wherein K_s is the coefficient of distribution of S, computed as the ratio of the counting rate from the slag to the counting rate from the metal, the counting rates being computed by the thick-layer method. The MgO content of the ferruginous slag, so long as it did not exceed 7.76%, exhibited no influence either on the K_s value

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The Effect of the Oxides of Alkaline-Earth Metals (cont.)

or on its dependence on temperature. With the maximum precision attainable in the experiment it was found that the CaO content, up to 12%, likewise did not alter the K_s value. For ferruginous slag containing more than 12% CaO it was learned that

$$\log K_s = \left(\frac{3700}{T}\right) - 1.26 .$$

This equation is correct for a CaO content up to 33%. The smallness of the effect exerted by the CaO on the K value is accounted for by the increase that occurred in the Fe_2O_3 concentration when CaO was introduced into the slag. For a slag containing 11.5 - 16.2% BaO, the equation obtained was $\log K_s = (3200/T) - 0.99$. From the dependence on temperature of K_s a computation was made of the heat effect of the desulfurization of the Fe by a slag consisting only of Fe oxides +14 kcal/gram.atom, with addition of more than 12% CaO + 17 kcal/gram.atom and 11-16% BaO + 14 kcal/gram.atom. The smallness of the heat effect and the smallness of the difference between them when one oxide was substituted for another are accounted for by the absence in ferruginous slags of any specific chemical reaction of oxides of Ca, Ba, and Mg with S.

I.T.

Card 2/2

1. Sulfur--Distribution 2. Iron--Applications 3. Slag--Applications 4. Alkaline earths--Oxidation--Effects

TRAVIN, O.V.

137-1958-1-223

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 1, p 34 (USSR)

AUTHORS: Travin, O.V., Shvartsman, L.A.

TITLE: Kinetics of Sulfur Transport from Pig Iron Into a $CaO-Al_2O_3$ Type Slag (Kinetika perenosa sery iz chuguna v shlak sistemy $CaO-Al_2O_3$)

PERIODICAL: V sb.: Fiz.-khim. osnovy proiz-va stali. Moscow, AN SSSR, 1957, pp 319-331. Diskus. pp 332-334

ABSTRACT: In the light of the results obtained and the concepts of electrochemistry, the Authors suggest the following mechanism for the transfer of S from iron to slag: $[S]+2e \rightleftarrows (S^{--})$ $[Fe] \rightleftarrows (Fe^{++})+2e$ (1) and $[Fe]+[S] \rightleftarrows (Fe^{++})+(S^{--})$ (2). If the Fe contains deoxidizing elements, reaction (1) may be competing with other processes also making for adherence to the conditions of electrical neutrality, for example: $[C]+(O^{--}) \rightarrow CO_{gas}+2e$; $[Si]+2(O^{--}) \rightleftarrows (SiO_2)+2e$; $(O^{--}) \rightleftarrows [O]+2e$. On the assumption that the limiting stage of the entire process of desulfuration is the molecular transport of the S ion into the slag via the diffusion layer on the boundary with the metal, the A's derive the following kinetic equation:

$$d[\%S] / dt = DA \cdot k [\%S] p / \delta ,$$

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137-1958-1-223

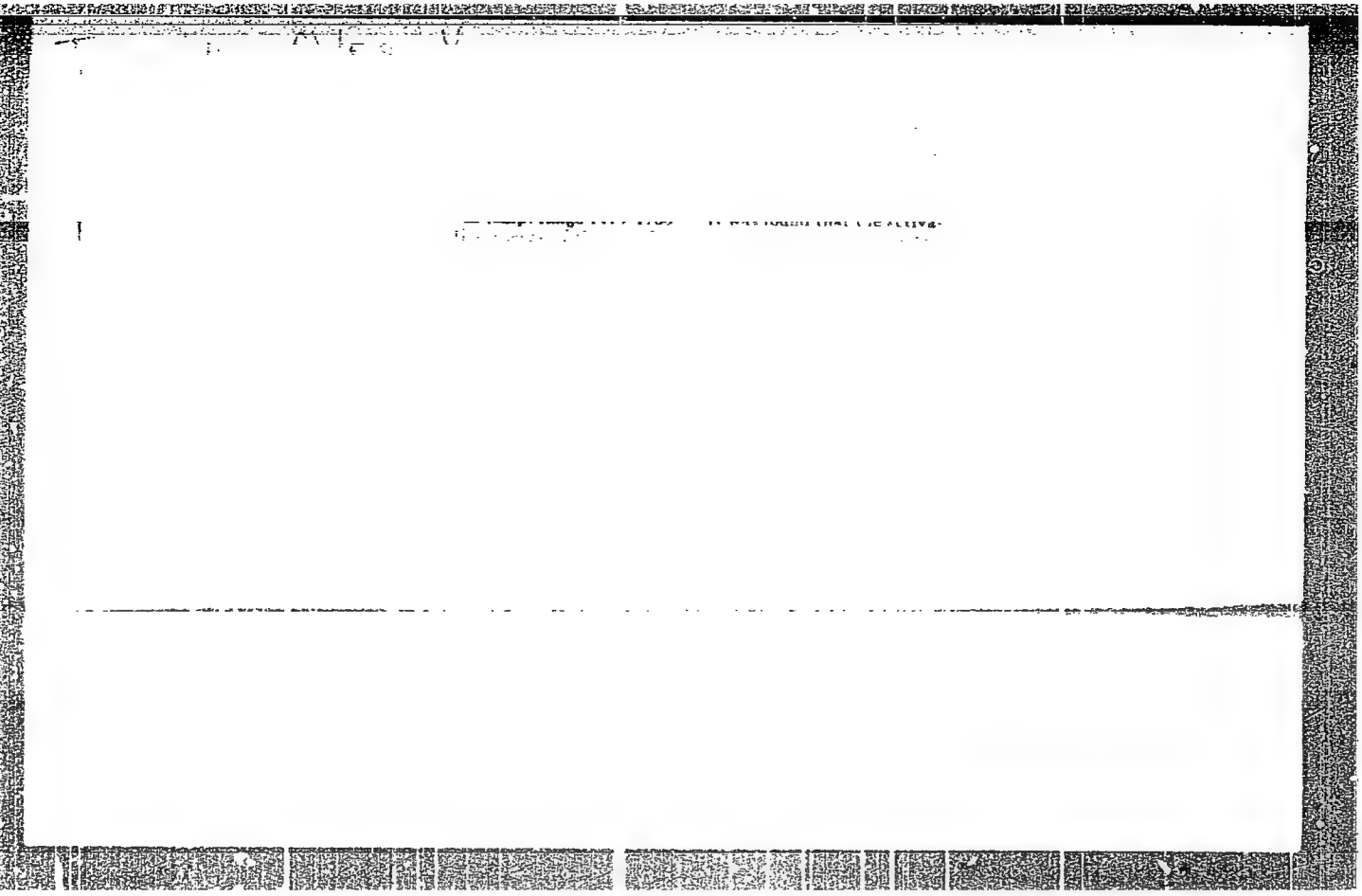
Kinetics of Sulfur Transport From Pig Iron (cont.)

where D is the coefficient of diffusion of S, k is the mass transport coefficient, and δ is the effective thickness of the diffusion layer. It was found that the rate of desulfuration is proportional to the concentration of S in the iron, with the exponent subject to temperature variations. When the temperature is low, the exponent is close to unity and the reaction is monomolecular. At higher temperatures, the order of reaction is fractional and tends toward 2. See RzhMet, 1956, Nr 2, 1000.

I.P.

1. Iron--Purification 2. Iron--Processing--Desulfurization
3. Electrochemistry--Applications

Card 2/2



5(4)

SOV/20-122-4-27/57

AUTHORS: Kozhevnikov, I. Yu., Travin, O. V., Yarkho, Ye. N.

TITLE: The Influence of CaF_2 on the Distribution of Phosphorus Among Liquid Iron and Ferrous-Calcareous Slags (Vliyaniye CaF_2 na raspredeleniye fosfora mezhdu zhidkim zhelezom i zhelezisto-izvestkovymi shlakami)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 122, Nr 4, pp 635-638 (USSR)

ABSTRACT: Calcium fluoride in a melt of oxides gives a singly charged anion F^- (R_{F^-} = 1,33 Å) the radius of which differs hardly from the radius of the oxygen ion (R_o^{2-} = 1,32 Å). Thus, there are 2 elementary anions of equal dimensions, but of different charge in the slags of the system $CaO-FeO-CaF_2$. The influence of F^- on the distribution of phosphorus, therefore, is in principle different from the influence of the complex anions SiO_4^{4-}, PO_4^{3-}, and AlO_2^-.

Card 1/3

The Influence of CaF_2 on the Distribution of Phosphorus Among Liquid Iron and Ferrous-Calcareous Slags

In this paper, the method of successive saturation was applied. The idea of this method consists of the saturation of iron with radioactive phosphorus P^{32} (which was previously introduced into the slag) at a constant temperature. The method of successive saturation permits 1) the establishing of isothermic conditions for the system metal-slag, 2) a reliable fixation of the equilibrium state, 3) the determination of the temperature dependence of the distribution index of phosphorus L_P for a slag of constant composition. The data for the system $CaO-FeO-CaF_2$ can be compared with the values of the thermodynamic functions of the dephosphorization of iron by ferrous-calcareous slags and in this way, the influence of CaF_2 can be found in a pure form. The replacing of CaO by CaF_2 diminishes the indices of the phosphorus distribution. The introduction of CaF_2 into ferrous-calcareous slags (even at low concentrations of P_2O_5) causes the formation of stable ionic groupings the composition of which corresponds to the chemical compound

The Influence of CaF_2 on the Distribution of Phosphorus Among Liquid Iron and Ferrous-Calcareous Slags

(fluor-apatite). According to the above-discussed data, the theory of the real metallurgic slags must rely on the following fact: Oxides of stable ion groupings the composition of which corresponds to definite chemical compounds are formed in the oxide melts. The use of CaF_2 in the treatment of phosphoric iron is not advantageous. There are 3 figures, 1 table, and 13 references, 11 of which are Soviet.

PRESENTED: May 24, 1958, by G. V. Kurdyumov, Academician

SUBMITTED: May 24, 1958

TRAVIN, O.V.; YUN-DIN, Chen

Influence of mechanical mixing of metal and slug on the speed of disulfurization of cast iron.

report submitted for the 5th Physical Chemical Conference on Steel Production.

Moscow 30 Jun 1959

SOV/180-59-2-2/34

AUTHORS: Travin, O.V. and Shvartsman, L.A. (Moscow)

TITLE: Dephosphorization of Pig Iron with Solid Mixtures (Defosforatsiya chuguna tverdymi smesyami)

PERIODICAL: Izvestiya Akademii Nauk, SSSR, Otdeleniye Tekhnicheskikh Nauk, Metallurgiya i Toplivo, 1959, Nr 2, pp 8-12 (USSR)

ABSTRACT: The authors state that, unlike desulphurization, the external dephosphorization of pig iron has received little research attention and is not applied in practice. A difficulty of such a process is that the phosphorus has to be oxidized while preserving a high concentration of carbon, (silicon, which gives rise to additional difficulties, has to be oxidized before dephosphorization). The object of the work described was to see whether solid lime-ferric oxide mixtures could be used for such dephosphorization. The mixtures with various lime : oxide ratios were made in tablets weighing 200 - 2500 mg, which were placed on the surface of molten iron containing radioactive phosphorus P^{32}. The initial phosphorus content of the iron was 0.005 - 0.737%. Temperatures (1200 - 1600 °C) were measured with an optical pyrometer. From measurement of the radioactivities of the top and

Card 1/3

Dephosphorization of Pig Iron with Solid Mixtures

bottom faces of the tablet the thickness of the phosphorus-containing layer (defined as the thickness over which the phosphorus concentration changes ten-fold) was determined. The authors admit the inaccuracies of this procedure. Loss in weight of the tablets always took place, due to reduction of their iron oxide. It was found (Table 1) that both loss in weight and quantity of phosphorus transferred to the tablet were approximately proportional to the tablet/metal contact area. The tablets were 50% CaO, 50% Fe_2O_3, the temperature 1265°C and initial phosphorus-content 0.017%. The influence of temperature was studied using 65% CaO, 35% Fe_2O_3 in tablets weighing 2000 mg with iron (0.02% P) weights of 500 g. The results (Table 2) indicated the advantage of low temperatures. Further tests at about 1235°C showed that there is an optimal contact time. The authors discuss the kinetics of the process, and the influence of the effective diffusion coefficient of the phosphorus. Special experiments at 1200-1300 °C showed that this does not exceed 10^{-7} cm^2/sec, indicating that a layer of phosphates containing over 20% phosphorus is formed on the surface of the slag particles

SOV/180-59-2-2/34

Dephosphorization of Pig Iron with Solid Mixtures

for the whole iron phosphorus-content range studied. The authors have also calculated from their experimental results for 27.2% lime tablets the mean P_2O_5 content in the phosphorus-containing layer, the weight of the layer and the quantity of phosphorus in the tablets, (Table 4). The general conclusion is that $CaO-Fe_2O_3$ solid slags can be used for dephosphorizing silicon-free iron.
There are 4 tables and 2 English references.

SUBMITTED: July 2, 1958

Card 3/3

PEREVALOV, N.N.; TRAVIN, O.V.

Applicability of thermodynamic relations in simulating steel refinement processes. Dokl. AN SSSR 163 no.1:83-86 Jl '65. (MIRA 18:7)

1. TSentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii. Submitted December 10, 1964.

VEDENIKOV, A.A.; PEREVALOV, N.N.; TRAVIN, O.V.

Possibility of calculating the oxygen content in open-hearth metal during the finishing period. Izv. vys. ucheb. zav.; chern. met. 6 no.9:55-61 '63. (MIRA 16:11)

1. TSentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii im. I.P.Bardina.

ZUROV, V.F.; TRAVIN, O.V.; SHVARTSMAN, L.A.

Refining cast iron and steel outside the furnace. Izv.vys.ucheb. zav.; chern.met. 4 no.5:47-49 '61. (MIRA 14:6)

1. TSentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii.
(Cast iron--Metallurgy) (Steel--Metallurgy)

SOV/137-59-5-9632

Translation from: Referativnyy zhurnal, Metallurgiya, 1959, Nr 5, p 22 (USSR)

AUTHORS: Sosnin, V.V., Yarkho, Ye.N., Travin, O.V.

TITLE: The Effect of Slag Mixing on the Desulfurization Rate of Cast Iron

PERIODICAL: V sb.: Metallurgiya i metallovedeniye, Moscow, AS USSR, 1958, pp 11 - 15

ABSTRACT: The authors investigated the effect of slag mixing on kinetics of S transition from cast iron into slag. A graph[illegible] crucible divided into four cells contained cast iron and slag. The slag in three compartments was stirred with graphite mixers at different speeds. During the experiment cast iron samples were taken off the compartments through communicating holes. The initial cast iron contained 0.3% S with admixture of S^{35}. Cast iron samples were analyzed by S^{35}. It was established that S transition from cast iron into slag was considerably accelerated

Card 1/2

SOV/137-59-5-9632

The Effect of Slag Mixing on the Desulfurization Rate of Cast Iron

with higher mixing speeds at elevated temperatures. The cross section of the cast-iron slag system, obtained by the self-radiography method, proved the presence of high S concentrations ($\sim$ 6%) in the slag at the interface with the metal; this indicates the presence of an equilibrium of this portion of the slag with the cast iron.

I.K.

Card 2/2

TRAVIN, P.I.

BARANOV, A.F., redaktor; RUDOY, E.F., redaktor; SOLOGUBOV, V.N., kandidat tekhnicheskikh nauk, otvetstvennyy redaktor toma; ALBEGOV, M.A., kandidat tekhnicheskikh nauk; VASIL'YEV, B.K., inzhener; VERSHINSKIY, S.V., kandidat tekhnicheskikh nauk; VINOGRADOV, G.P., kandidat tekhnicheskikh nauk; VINOKUROV, M.V., professor, doktor tekhnicheskikh nauk; GOLOVANOV, V.G., kandidat tekhnicheskikh nauk; GORDEYEV, A.S., dotsent, kandidat tekhnicheskikh nauk; GURSKIY, P.A., dotsent, kandidat tekhnicheskikh nauk; GUREVICH, A.N., kandidat tekhnicheskikh nauk; DOMBROVSKIY, A.B., dotsent; YEGORCHENKO, V.F., professor, doktor tekhnicheskikh nauk; IVANOV, V.N., professor, doktor tekhnicheskikh nauk; KARVATSKIY, B.L., professor, doktor tekhnicheskikh nauk; KOROLEV, K.P. professor, doktor tekhnicheskikh nauk; MUCHKIN, I.N., kandidat tekhnicheskikh nauk; POPOV, G.V., inzhener; PROSKURNEV, P.G. inzhener; SAFON-TSEV, K.A., inzhener; SEMICHASTNOV, I.F. dotsent, kandidat tekhnicheskikh nauk; SLOMYANSKIY, A.V., dotsent, kandidat tekhnicheskikh nauk; STEPANOV, A.D., dotsent, kandidat tekhnicheskikh nauk; SYROMYATNIKOV, S.P., akademik[deceased]; TERNOVSKIY, V.A., dotsent; kandidat tekhnicheskikh nauk; TRUBETSKOY, V.A., kandidat tekhnicheskikh nauk, KHOKHLOV, N.F., kandidat tekhnicheskikh nauk; SHARONIN, V.S., kandidat tekhnicheskikh nauk; YEVTUSHENKO, A.M. SHLYKOV, Yu.P., dotsent, kandidat tekhnicheskikh nauk; YEVTUSHENKO, A.M. kandidat tekhnicheskikh nauk, retsenzent; IVANOV, V.N., professor, doktor tekhnicheskikh nauk, retsenzent; PANOV, N.I., dotsent, kandidat tekhnicheskikh nauk, retsenzent; SLOMYANSKIY, A.V., dotsent, kandidat tekhnicheskikh nauk, retsenzent; UTYANSKIY, L.I., inzhener, retsenzent; NETYKSA, V.M., professor, doktor tekhnicheskikh nauk, retsenzent;

(Continued on next card)

BARANOV, A.F., -- (Continued) Card 2.

TOPORNIN, G.S., inzhener, retsenzent; DOMBROVSKIY, A.B., dotsent; retsenzent; POYDO, A.A., kandidat tekhnicheskikh nauk, retsenzent; YAKOBSON, P.Ye., laureat Stalinskoy premii; dotsent; kandidat tekhnicheskikh nauk, retsenzent; POPOV. A.A., professor, doktor tekhnicheskikh nauk, retsenzent; PROSKURNEV, P.G., inzhener, retsenzent; SAFONTSEV, K.A , inzhener, retsenzent; SERAFIMOVICH, V.S., kandidat tekhnicheskikh nauk; retsenzent; TRAVIN, P.I., inzhener, retsenzent; FOKIN, K.F., kandidat tekhnicheskikh nauk, retsenzent; SHCHERBAKOV, V.P., inzhener, retsenzent; SHADUR, L.A., dotsent; kandidat tekhnicheskikh nauk,retsenzent; TIKHONOV, P.S., inzhener retsenzent; TKACHENKO, F.D., inzhener; retsenzent; BABICHKOV, A.M. professor, doktor tekhnicheskikh nauk, retsenzent; KOROSTYLEV, A.I. inzhener, retsenzent; LEVITSKIY, V.S., dotsent; kandidat tekhnicheskikh nauk, retsenzent; KLYKOV, A.F., inzhener, retsenzent; SOLOGUBOV, V.N. redaktor; SHISHKIN, K.A., redaktor; SLOMYANSKIY, A.V. redaktor; SALENKO, S.V., redaktor; YUDZON, D.M. tekhnicheskiy redaktor.

[Technical reference book for railroad men] Tekhnicheskii spravochnik zheleznodorozhnika. Redaktsionnaia kollegiia: A. F. Baranov, i dr. Glav.redaktor. E. F. Rudoi. Moskva, Gos.transp.zhel-dor.izd-vo. Vol. 6 [Rolling stock] Podvizhnoi sostav. 1952. 955 p. (MLRA 8:9)
(Railroads--Rolling-stock)

BATALOV, A., master-povar; CHEPIGA, B., master-povar; SHKONDIN, I., master-povar; SUBOCHEV, M., master-povar; RUBIN, G., master-povar; KOROTUN, A., inzh.-tekhnolog; TRAVIN, V.; KOBETS, N.

We shall respond to the appeal. Obshchestv.pit. no.11:25 N '60. (MIRA 14:3)

1. Zaveduyushchiy proizvodstvom restorana "Moskovskiy," Rostov-na-Donu (for Batalov). 2. Zaveduyushchiy proizvodstvom kafe-konditerskoy "Zolotoy kolos," Rostov-na-Donu (for Chepiga). 3. Zaveduyushchiy proizvodstvom restorana "Vostok," g.Shakhty (for Shkondin). 4. Zaveduyushchiy proizvodstvom restorana "Rostov," Rostov-na-Donu (for Subochev). 5. Zaveduyushchiy proizvodstvom restorana "Don," Rostov-na-Donu (for Rubin). 6. Zaveduyushchiy konditerskim proizvodstvom kafe-konditerskoy "Zolotoy kolos," Rostov-na-Donu (for Korotun). 7. Zaveduyushchiy proizvodstvom restorana "Yuzhnyy," Novocherkassk (for Travin). 8. Zaveduyushchiy proizvodstvom restorana "Volna," Taganrog (for Kobets).

(Rostov Province—Restaurants, lunchrooms, etc.)

TSYGODA, I.M.; KAZAKOV, V.N.; SEREGIN, Yu.I.; KORNEYEV, V.F.; Prinimali uchastiye: PECHENKIN, S.N.; GLAZACHEV, A.M.; TRAVIN, V.F.

Pilot plant testing of the sinter roasting of copper charges with a bottom blow. TSvet. met. 35 no.3:23-30 Mr '62. (MIRA 15:4)

(Sintering--Testing) (Copper ores)

TRAVIN, Valentin Ivanovich; MERKUR'YEV, V.I., red.; BARANOV, I.A., tekhn. red.

[Fisheries in the northwestern areas of the Atlantic Ocean] Rybolovstvo v raionakh severo-zapadnoi Atlantiki. Murmansk, Murmanskoe knizhnoe izd-vo, 1961. 92 p. (MIRA 15:7)
(Atlantic Ocean--Fisheries)

TRAVIN, V.de

Direct dialing of numbers in automatic telephone systems through TsB/3/2 switchboards. Avtom., telem. i sviaz' 2 no.9:20 S '58. (MIRA 11:10)

1.Starshiy inzh. lineyno-apparatnogo zala Upravleniya Moskovsko-Kiyevskoy dorogi.

(Telephone, Automatic)

TRAVIN, V.S.

Circuit for automatic switching into long-distance lines. Avtom., telem.i sviaz' 4 no.2:34-35 F '60. (MIRA 13:6)

1. Starshiy inzhener Kaluzhskoy distantsii signalizatsii i svyazi Kalininskoy dorogi.
(Telephone, Automatic)

TRAVIN, V.S.

Control of the passage of a call through long-distance lines. Avtom. telem. i sviaz' 8 no.9:38 S '64. (MIRA 17:10)

1. Starshiy inzh. Kaluzhskogo filiala laboratorii signalizatsii i svyazi Moskovskoy dorogi.

L 06193-67 EWT(m)/EWP(t)/ETI/EWP(k) LJP(c) JD/HW/JG

ACC NR: AP6032200 SOURCE CODE: UR/0133/66/000/010/0947/0947

AUTHOR: Yudovich, S. Z.; Abramov, V. V.; Sypko, A. V.; Frantsov, V. P.; Travinin, V. I.; Borisenko, I. G.

45
41
B

ORG: none

TITLE: Forgeability of heat-resistant DI-1 stainless steel

SOURCE: Stal', no. 10, 1966, 947

TOPIC TAGS: heat resistant steel, stainless steel, martensitic steel, chromium nickel molybdenum steel, steel forging, PHASE COMPOSITION, /DI-1 stainless steel

ABSTRACT: The forgeability of heat-resistant DI-1 stainless steel is affected by the following factors: chemical composition, amount of impurities, microstructure, surface condition of the ingot and phase composition. The decisive factor, however, was found to be the alpha-phase content. The amount of α-phase at 1200C varies between 3 and 8% (depending on the holding time) and between 9—20% at 1250C. The α-phase content affects negatively the elongation and reduction of area. To improve forgeability, the heating of ingots from 900C to 1200C should be done as fast as possible, the holding time at 1200C should not be less than 3 min per cm of cross section, and the absolute reduction should not be more than 25—30 mm per pass. The best chemical

Card 1/2 UDC: 669.14.018.45

L 06193-67
ACC NR: AP6032200

composition was established as follows: carbon 0.19—0.21%, manganese 0.33—0.38%, silicon 0.22—0.30%, chromium 15.0—15.5%. Orig. art. has: 2 figures.

SUB CODE: 11,13/ SUBM DATE: none/ ORIG REF: 001

Card 2/2 afs

TRAVIN, V. I.

"Size- and Age-Composition of Redfish in Some Areas of North Atlantic in 1956,"

paper presented at the 45th Meeting of the Intl. Council for the Exploration of the Sea, Bergen, Norway, 30 Sept - 8 Oct 57.

Trans, - A,3,098,401, 12 Feb 58

TRAVIN, V.I.

Biology of rosefish and outlook for its fisheries in seas of the North Atlantic. Trudy sov. ikht. kom. no.10:125-130 '60.
(MIRA 13:10)

1. Polyarnyy nauchno-issledovatel'skiy institut morskogo rybnogo khozyaystva i okeanografii-(PINRO).
(Atlantic Ocean--Rosefish)

TRAVIN, Valentin Ivanovich; MERKUR'YEV, V.I., red.; BARANOV, I.A., tekhn. red.

[Fishing in northwestern regions of the Atlantic] Rybolovstvo v raionakh severo-zapadnoi Atlantiki. Murmansk, Murmanskoe knizhnoe izd-vo, 1961. 92 p. (MIRA 14:12)
(Atlantic Ocean—Fisheries)

TRAVIN, V.S.

Signal marking the cut-in of the operator. Avtom., telem. i sviaz' 3 no.4:39 Ap '59. (MIRA 12:5)

1.Starshiy inzhener Lineyno-apparatnogo zala upravleniya Moskovsko-Kiyevskoy dorogi.
(Telephone, Automatic)

TRAVIN V.S

TRAVIN, V.S.

Simplified circuit for long-distance dialing. Avtom., telem. i sviaz' 2 no.2:25 F '58. (MIRA 11:1)

1. Starshiy inzhener Lineyno-apparatnogo zala upravleniya Moskovsko-Kiyevskoy dorogi.

(Railroads--Telephone)

TRAVINA, A. A.

Conditioned reflexes produced by irritation with food of parts of the tongue outside of the mouth. Zh. vyssheĭ nerv. deiat. 2 no. 1:126-132 Jan-Feb 1952. (CIML 23:3)

1.Physiology Department imeni I. P. Pavlov of the Institute of Experimental Medicine of the Academy of Medical Sciences USSR.

TRAVINA, A. A.

Summation of unilateral and bilateral conditioned stimulators. Zh. vyssheĭ nerv. deiat. 2 no. 3:388-395 May-June 1952. (CLML 23:3)

1. Physiology Department imeni I. P. Pavlov of the Institute of Experimental Medicine of the Academy of Medical Sciences USSR.

TRAVINA, A.A.

Localization of the closing of a conditioned bond. Zhur.vys.nerv. deiat. 4 no.5:692-698 S-O '54. (MLRA 8:7)

1. Fiziologicheskiy otdel im. I.P.Pavlova Instituta eksperimental'noy meditsiny AMN SSSR.

(REFLEX, CONDITIONED,
localization of closing of conditioned bond)

TRAVINA, A.A.

Summation of conditioned stimuli. Zhur.vys.nerv.deiat. 4 no.6: 808-814 N-D '54. (MLRA 8:7)

1. Fiziologicheskiy otdel im. I.P.Pavlova Instituta eksperimental'noy meditsiny Akademii meditsinskikh nauk SSSR.
(REFLEX, CONDITIONED, summation of stimuli)

FD-2376

TRAVINA, A. A.

USSR/Medicine - Neurophysiology

Card 1/1 Pub. 154-7/18

Author : Travina, A. A.

Title : Unilateral food-conditioned reflexes to mechanical irritations of symmetrical areas of the skin.

Periodical : Zhur. vys. nerv. deyat., 5, 55-60, Jan/Feb 1955

Abstract : Conditioned reflexes develop when a unilateral cutaneous-mechanical irritation is reinforced by irritation of the mouth cavity with food. On this an attempt was made to show that correlation exists between symmetrical spots of the cutaneous analysors when food reinforcement is used. Experiments conducted on two dogs revealed that a conditioned reflex is developed sooner on the unilateral femur with an unconditioned reflex when alternate or successive mechanical irritation of two symmetrical points of the skin is combined with irritation of one side of the tongue area. A conditioned reflex, developed on the femur on the side opposite the irritated tongue area, always excels in magnitude a conditioned reflex on the femur situated on the same side as the irritated area of the tongue. Three tables. Ten Soviet references.

Institution: Physiology Department imeni I. P. Pavlov of the Institute of Experimental Medicine, Academy of Medical Sciences USSR

Submitted : August 2, 1954

TRAVINA, A.A.

Formation of a unilateral focus of prolonged excitation in the cortical representation of an unconditioned reflex. Biul.eksp. biol. i med. 41 no.4:7-10 Ap'56. (MLRA 9:8)

1. Iz fiziologicheskogo otdela imeni Pavlova (zav. deystvitel'nyy chlen AMN SSSR prof. P.S.Kupalov) iz laboratorii (zav. chlen-korrespondent AMN SSSR prof. K.S.Abuladze) Instituta eksperimental'noy meditsiny AMN SSSR, Leningrad. Predstavlena deystvitel'nym chlenom AMN SSSR P.S.Kupalovym.

(REFLEX,
undonditioned, form of unilateral focus of chronic irritation in cortical representation of unconditioned reflex during conditioned reflexes (Rus))

(REFLEX, CONDITIONED,
form. of unilateral focus of chronic irritation in cortical representation of unconditioned reflex during conditioned reflexes (Rus))

(CEREBRAL CORTEX, physiology,
same)

TRAVINA, A.A.

Problem of the lability of neural processes. Zhur. vys. nerv. deiat. 12 no.2:260-266 Mr-Ap '62. (MIRA 17:12)

1. Fiziologicheskiy otdel imeni I.P. Pavlova Instituta eksperimental'noy meditsiny AMN SSSR, Leningrad.

TRAVINA, A.A.

Case of over-exertion of the mobility of the nervous processes in the cortical representation of an acid reflex. Zhur. vys.nerv. deiat. 10 no.2:262-269 Mr-Ap '60. (MIRA 14:5)

1. Pavlov Physiology Department, Insitute of Experimental Medicine, U.S.S.R. Academy of Medical Sciences, Leningrad.
(NERVOUS SYSTEM)

TRAVINA, A.A.

Appearance in dogs of a marned aggressive reaction following prolonged use of unilateral acid stimuli. Biul. eksp. biol. i med. 49 no. 4:20-23 Sp '60. (MIRA 13:10)

1. Iz laboratorii patologii vysshey nervnoy deyatel'nosti (zav. - chlen-korrespondent AMN SSSR prof. K.S. Abuladze) Fiziologicheskogo otdela im. I.P. Pavlova (zav. - deystvitel'nyy chlen AMN SSSR P.S. Kupalov) Instituta eksperimental'noy meditsiny AMN SSSR (dir. - chlen-korrespondent AMN SSSR prof. D.A. Biryukov), Leningrad.

(NERVOUS SYSTEM)

TRAVINA, A.A.

Conditioned and unconditioned food and acid reflexes before and after exteriorization of the posterior third of the tongue. Zhur. vys.nerv.deiat. 10 no.6:892-895 N-D '60. (MIRA 14:1)

1. Fiziologicheskiy otdel im. I.P.Pavlova Instituta eksperimental'noy meditsiny Akademii meditsinskikh nauk SSSR.
(CONDITIONED RESPONSE) (REFLEXES)
(TONGUE)

USSR/Human and Animal Physiology (Normal and Pathological). T-12
Nervous System. Higher Nervous Activity. Behavior.

Abs Jour : Ref Zhur - Biol., No 11, 1958, 51321

Author : Travina, A.A.

Inst : Institute of Experimental Medicine, Academy of Medical Sciences USSR.

Title : Removal of Various Cerebral Cortex Sections Influencing Food and Acidic Conditioned Reflexes.

Orig Pub : Yezhegodnik. In-t eksperim. med. Akad. med. nauk SSSR, 1955, L., 1956, 44-46.

Abstract : When g. sylvius ant. or gg. ectolateralis, entolateralis, and suprasplenialis were unilaterally removed in several dogs, essential impediment of conditioned and unconditioned salivary secretion reflexes did not occur. Following removal of gg. ectosylvius, coronalis and suprasylvius

Card 1/2

VASIL'YEV, G.D.; TRAVINA, I.O.

Some materials on the exploration of spawning grounds of Atlanto-Scandinavian herring in April and May [1959]. Trudy BaltNIRO no.7:63-66 '61. (MIRA 15:2)

(North Sea--Herring)

MEL'NIKOV, N.P.; TRAVINA, K.A.

Obtaining hydrofuramide from furfural-containing condensates.
Gidroliz. i lesokhim. prom. 11 no.3:8-10 '58. (MIRA 11:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut gidroliznoy i sul'fitno-spirtovoy promyshlennosti.
(Hydrofuramide) (Furaldehyde)

USSR / Virology. Human and Animal Virology. Viruses of the Pox Group. E-3

Abs Jour : Ref Zhur - Biol., No 20, 1958, No 90661

Authors : Syurin, V. N.; Travina, L. A.

Inst : The State Scientific Control Institute for Veterinary Preparations.

Title : A Contribution to the Problem of the Biological Nature of UIEV Smallpox Vaccine.

Orig Pub : Tr. Gos. nauchno-kontrol'n. in-ta vet. preparatov, 1957, 7, 155-160.

Abstract : No abstract.

Card 1/1

YEZHEVA, P.S.; GUSEVA, L.T.; KURCHININA, P.G.; GUROVA, T.G.; MISHCHENKO, G.I.; BERDNIKOVA, M.V.; TRAVINA, L.D.; ZORINA, P.T., red.

[Economy of Magadan Province; statistical collection] Narodnoe khoziaistvo Magadanskoi oblasti; statisticheskii sbornik. Magadan, 1960. 110 p. (MIRA 14:10)

1. Magada (Province) Statisticheskoye upravleniye. 2. Rabotniki Magadanskogo oblastnogo statisticheskogo upravleniya (for all except Zorin). 3. Nachal'nik Magadanskogo oblastnogo statisticheskogo upravleniya (for Zorin).
(Magadan Province--Statistics)

MERTSALOV, Ye.N.; SAVICHEVA, L.A.; TRAVINA, L.P.

Carrying of dysentery bacteria by healthy children in a kindergarten (author's abstract). Pediatriia 39 no.3:48-49 My-Je '56. (MLRA 9:9)

1. Iz Kazakhskogo instituta epidemiologii, mikrobiologii i gigiyeny (dir. Z.A.Roshchina, nauchnyy rukovoditel' - chlen-korrespondent AN Kazakhskoy SSSR Kh.Zh.Zhumatov)
(DYSENTERY)

TRAVIN, I. V.

PHASE I BOOK EXPLOITATION SOV/5525

Bagaryatskiy, Yuriy Aleksandrovich, Doctor of Physics and Mathematics; Yakov Mendelevich Golovchiner; Vera Alekseyevna; Emmanuil Zel'manovich Kaminskiy, Candidate of Physics and Mathematics; Viktor Mikhaylovich Kardonskiy; Vladislava Kazimirovna Kritskaya, Candidate of Physics and Mathematics; Leonid Ivanovich Lysak, Doctor of Technical Sciences; Yuriy Andreyevich Osip'yan; Mark Davydovich Perkas, Candidate of Technical Sciences; Vladimir Moiseyevich Rozenberg, Candidate of Technical Sciences; Nadezhda Trofimovna Travina, Candidate of Physics and Mathematics; and Lev Markovich Utevskiy, Candidate of Technical Sciences.

Rentgenografiya v fizicheskom metallovedenii (Radiography in Physical Metallography) Moscow, Metallurgizdat, 1961. 368 p. 5,200 copies printed.

Sponsor: Agencies: Gosudarstvennyy nauchno-ekonomicheskiy Sovet SSSR. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii im. I.P. Bardina. Institut metallovedeniya i fiziki metallov.

Ed. (Title page): Yu. A. Bagaryatskiy; Ed. of Publishing House: Ye.K. Berlin; Tech. Ed.: Ye.B. Vayshteyn.

Card 1/7

PURPOSE: This handbook is intended for x-ray technicians working in plant laboratories of the metallurgical and machine-manufacturing industry. It may also be useful to technical personnel in the field of applied x-ray diffraction analysis employed at scientific, technical, and educational institutions.

COVERAGE: The handbook contains basic information of the methods employed in metallography. It consists of four parts. Part I contains descriptions of methods for the study of polycrystals, including the special features of the work with sharp-focused tubes and ionization counters, preparation of specimens, and choice of radiation sources, filters, cameras, and geometry of the picture. Data on the photometering of x-ray pictures and on the application of electron diffraction techniques to metal science are also presented. Part II contains a detailed description of stresses and deformations in crystals of metal, as well as of new methods for measuring the size of grains and areas of coherent scattering. The material also contains data on methods for studying the recrystallization of metals for determining textures. Part III is devoted to x-ray phase analysis to be carried out with the aid of tables included in the appendix. Part IV deals with x-ray studies of steel that has been variously treated by thermal and thermochemical methods. No personalities are mentioned. There are 252 references: 199 Soviet, 55 English, 2 German, and 2 French.

Card 2/7

BAGARYATSKIY, Yuriy Aleksandrovich; GOLOVCHINER, Yakov Mendelevich; IL'INA, Vera Alekseyevna; KAMINSKIY, Emmanuil Zel'manovich; KARDONSKIY, Viktor Mikhaylovich; KRITSKAYA, Vladislava Kazimirovna; LYSAK, Leonid Ivanovich; OSIP'YAN, Yuriy Andreyevich; PERKAS, Mark Davydovich; ROZENBERG, Vladimir Moiseyevich; SANDLER, Naum Isaakovich; TRAVINA, Nadezhda Trofimovna; UTEVSKIY, Lev Markovich; BERLIN, Ye.N., red.izd-va; VAYNSHTEYN, Ye.B., tekhn.red.

[Radiography in metallography] Rentgenografiia v fizicheskom metallovedenii. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1961. 368 p. (MIRA 14:7)
(Metallography) (X-rays—Industrial applications)

SOV/137-58-7-15689

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 7, p 254 (USSR)

AUTHORS: Kaminskiy, E. Z., Rozenberg, V. M., Travina, N. T.

TITLE: Effect of Alloying Elements on the Kinetics of the Recrystallization of Nickel and Nickel-chrome-cobalt Alloys (Vliyaniye legiruyushchikh elementov na kinetiku rekristallizatsii nikelya, nikel'khromokobal'tovykh splavov)

PERIODICAL: Sb. tr. In-t metalloved. i fiz. metallov Tsentr. n.-i. in-ta chernoy metallurgii, 1958, Vol 5, pp 503-513

ABSTRACT: An X-ray determination was made of the temperature at which recrystallization begins during treatment, $t_{b.r.}$, of the nickel-base alloys, Ni-Co, Ni-Cr, and Ni-Cr-Co with additions of Fe, Al, Mo, W, and Ti (blank space left in Russian original, Transl. Ed. Note) rolled and annealed at 400-950°C during 1-10 hrs. Graphs of the relationship of the time of recrystallization to the annealing temperature and the composition of the alloys are adduced. For binary alloys it is indicated that Fe and Al have no effect on $t_{b.r.}$; Co lowers $t_{b.r.}$; up to 2 atom % Cr lowers $t_{b.r.}$; higher Cr concentrations increase $t_{b.r.}$; Mo, W, and Ti

Card 1/2

SOV/137-58-7-15689

Effect of Alloying Elements on the Kinetics (cont.)

increase the $t_{b.r.}$ of Ni. In the case of ternary and more complex alloys the relationship of $t_{b.r.}$ to the composition of the alloys becomes more complicated.

A. B.

1. Nickel alloys--Crystallization 2. Alloys--Metallurgical effects
3. Nickel alloys--Heat treatment 4. Nickel alloys--X-ray analysis

Card 2/2

SOV/137-58-8-17733

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 8, p 220 (USSR)

AUTHORS: Kaminskiy, E. Z., Rozenberg, V. M., Travina, N. T.

TITLE: A Study of the Kinetics of Recrystallization of Cr-Ni-Co Alloys (Izucheniye kinetiki rekristallizatsii khromo-nikel'-kobal'tovykh splavov)

PERIODICAL: V sb.: Issled. po zharoprochn. splavam. Vol 2. Moscow, AN SSSR, 1957, pp 181-185

ABSTRACT: Investigations performed dealt with the influence of the composition of Cr-Ni-Co alloys on the temperature of recrystallization (R). Tests were carried out on three series of alloys (A) in which the ratio of the Co-Ni content (expressed in atom %) was 3:7, 1:1, and 7:3. Certain A with this base were supplemented by Ti, Al, W, Mo, Fe, and C. After smelting in a high-frequency induction furnace, the A were subjected to cold rolling with a degree of reduction of ~73%. However, owing to considerable difficulties in rolling, certain A were deformed only by approximately 20%. Specimens for X-ray analysis were prepared from strips of the rolled material. The X-ray studies demonstrated that all ternary Cr-Ni-Co

Card 1/2

A Study of the Kinetics of Recrystallization of Cr-Ni-Co Alloys

alloys belonged in the category of a homogeneous solid solution. For the purpose of studying the kinetics of R, specimens were subjected to annealing at temperatures of 450-900°C for various periods of time. The R temperatures were determined by X-ray means, namely, by the appearance of separate dots on the diffraction patterns. For every series of A the temperature corresponding to the onset of R is shown to increase with increasing concentrations of Cr, whereas the ratio of Ni and Co manifests itself differently at different concentrations of Cr. In the case of an A containing 10% Cr, the R temperature is practically independent of the Ni-Co ratio. At a 20% Cr content, highest R temperature is observed in the A with a Co-Ni ratio of 1:1; the next lower R temperature is exhibited by the A with a Co-Ni ratio of 7:3, followed by the A with a Co-Ni ratio of 3:7. At a 30% Cr content, the alloys with Co-Ni ratios of 3:7 and 7:3 exhibit an identical R temperature which is somewhat higher than that of the A with a 1:1 Co-Ni ratio. It has been established that alloys containing additions of W and Mo, either separately or concurrently, exhibit higher R temperatures than alloys containing no such additives. Addition of Ti and Al also increases the temperature of the onset of R. Addition of Fe in amounts of 5-10% exerts practically no influence on the R temperature of Cr-Ni-Co alloys. 1. Chromium-cobalt-nickel alloys--Crystallization 2. Chromium-cobalt-nickel alloys--Temperature factors 3. Chromium-cobalt-nickel alloys--Temperature factors 4. Chromium-cobalt-nickel alloys--Test results

Card 2/2 L G.

Travina, N T

USSR/Engineering - Ferrous metals

Card 1/1 Pub. 22 - 21/47

Authors : Kurdyumov, G. V., Academician; and Travina, N. T.

Title : Roentgenographic study of interatomic reactions in solid solutions with a nickel base

Periodical : Dok. AN SSSR 99/1, 77-80, Nov 1, 1954

Abstract : Experiments with crystallic solid solutions, having a nickel base, are described. The experiments are intended to determine the strength of the interatomic bonds of the solutions. This was accomplished by measuring the thermal factors of Roentgen's ray-dispersion. Results are given. Five references (1951-1954). Tables; graphs.

Institution : Institute of Metallurgy and Physics of Metals of TsNIIChM (Central Scientific Research Institute of Ferrous Metals)

Submitted : ...

L 3076-66 EWT(1)/EWT(m)/EWP(w)/T/EWP(t)/EWP(z)/EWP(b)/EWA(c) IJP(c) JD/HW/GG
ACCESSION NR: AP5018078 UR/0020/65/163/001/0079/0082

AUTHOR: Nosova, G. I.; Travina, N. T.

TITLE: Change in mechanical properties of single crystals of alloys of the copper-nickel-cobalt system during different aging stages

SOURCE: AN SSSR. Doklady, v. 163, no. 1, 1965, 79-82

TOPIC TAGS: copper base alloy, nickel containing alloy, cobalt containing alloy, metal aging, metal recrystallization

ABSTRACT: This is a continuation of earlier work by the authors (Izv. AN SSSR, Metallurgiya i gornoye delo, v. 3, no. 2, 154, 1963) on the decay (stratification) of copper-nickel-cobalt alloys during quenching and tempering. The present study is devoted to the mechanical processes of the alloy during the following decay stages: initial solid solution, formation of periodically varying crystal lattice structure, stage of coexistence of two tetragonal phases, and existence of one cubic phase and one tetragonal phase. These stages were produced by quenching and tempering for different lengths of time at 700°. The single crystals for the tests were grown from the melt. The copper-nickel-cobalt percentages were 35-30-35, 50-30-30, 50-30-40, and 50-25-25. The quantities measured were the time variation and the temperature dependence of the cleaving stress σ_c (determined from the tension

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L 3076-66
ACCESSION NR: AP5018078

curves), the dependence of the degree of hardening on the alloy structure, and the stress-strain relations. The differences between the different alloys are explained from the point of view of the differences in the degree of stratification during decay and the changes occurring in the lattice parameters. Comparison of the experimental critical cleavage stresses with the values calculated on the basis of existing theories shows that best agreement is obtained with the theory of N. F. Mott and F. R. N. Nabarro (Proc. Phys. Soc. v. 52, 86, 1940). It is concluded therefore that the critical cleavage stress is determined by the average internal stress produced by the atoms of the alloying element. This report was presented by G. V. Kurdyumov. Orig. art. has: 3 figures and 2 tables.

ASSOCIATION: Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii im. I. P. Bardina (Central Scientific-Research Institute of Ferrous Metallurgy)

SUBMITTED: 18Dec64 ENCL: 00 SUB CODE: MM, SS
NR REF SOV: 001 OTHER: 004

Card 2/2

L 44311-66 EWT(m)/EWP(w)/T/EWP(t)/ETI IJP(c) JD/JH
ACC NR: AP6019832 (N) SOURCE CODE: UR/0370/66/000/001/0126/0135

AUTHOR: Bagaryatskiy, Yu. A. (Deceased) (Moscow); Nosova, G. I. (Moscow); Travina, N.T. (Moscow)

ORG: none

TITLE: Changes in the structure of Al-Mg and Al-Mg-Zn alloys on aging and their effect on the mechanical properties of the alloys

SOURCE: AN SSSR. Izvestiya. Metally, no. 1, 1966, 126-135

TOPIC TAGS: aluminum base alloy, magnesium, zinc, phase composition, metal aging, tempering

ABSTRACT: Differences in the atomic dimensions of alloy components may markedly influence the mechanism of phase transformations in alloys and particularly the decomposition of supersaturated solid solutions. For this very reason, it is of special interest to study the aging of Al-Mg and Al-Mg-Zn alloys, whose components differ greatly in atomic radii, and in which tempering at 50-400°C may lead to the decomposition of the supersaturated α-solid solution with the formation of the equilibrium phases α and β(Al_3Mg_2) whose crystalline structure has been variously defined as hexagonal and complex-cubic. Regarding Al-Mg alloys

UDC: 669.017.12

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there exist conflicting opinions on the structure of phases segregating in these alloys during their tempering. Thus some investigators believe that the metastable phase β' is the first to form, while others conclude that the equilibrium phase β with a more or less distorted structure segregates already in the early stages of tempering. To clarify this question, the alloy of Al + 9.4% Mg was radiographically examined following its quenching from 440°C and tempering at 150, 218, and 270°C. Findings: the decomposition of the solid solution during tempering at 150°C occurs much more slowly than at 218 and 270°C but the phase segregating in the early stages of tempering at 150°C is the same β-phase as that segregating at higher temperatures. As for the Al-Mg-Zn ternary alloys, by contrast with the Al-Mg binary alloys, they are capable of natural aging. In this connection the authors investigated the effect of different atomic ratios of Mg to Zn (1:1 and 1:2) on the nature of decomposition of the solid solution following both natural and artificial aging, thus establishing that the sequence of structural changes during the aging of the Mg-rich Al-Mg-Zn ternary alloys (Al + 4 wt.% Mg + 5 wt.% Zn) is the same as in Mg-poor alloys of this kind (Al + 2 wt.% Mg + 5 wt.% Zn), but in the Mg-rich alloys these processes occur much more rapidly. In the Al-Mg alloys hardness, ultimate strength and yield point begin to increase during the initial stage of tempering and go through two maxima -- one very early during tempering (within the first 3-10 min) and the other, accompanying the segregation of substantial amounts of the β-phase. In the Al-Mg-Zn alloys these

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ACC NR: AP6019832

mechanical properties also increase during the initial stage of aging; they decrease only after prolonged tempering (more than 250 hr at 150°C), i.e. clearly, following coagulation of particles of the T-phase. Orig. art. has: 8 figures, 3 tables.

SUB CODE: 13, ~~20~~, 11/ SUBM DATE: 08Aug64/ ORIG REF: 003/ OTH REF: 018/

Card 3/3 UCR

TRAVINA, N.T.

KURDYUMOV, G.V., akademik; TRAVINA, N.T., kand.fiz.-mat.nauk

X-ray interference intensity changes during nickel-chromium-titanium-aluminum alloy aging. Probl. metalloved. i fiz. met. no.4:265-472 '55. (MIRA 11:4)
(Nickel-Chromium-Titanium alloys--Hardening)
(X rays--Industrial applications)

"The effect of alloying elements of the recrystallization kinetics of nickel, nickel-chrome alloys, and nickel-chrome-cobalt alloys, page 503, with Kaminskiy, E. Z., Cand. Phys. and Math. Sci.; Rozenberg, V. M., Cand. Tech. Sci.

In book Problems of Physical Metallurgy, Moscow, Metallurgizdat, 1956, 503p (Its: Sbornik trudov, v. 5)

The articles in the book present results of investigations conducted by the issuing body, Inst. of Physical Metallurgy, a part of the Cent. Sci. Res. Inst. of Ferrous Metallurgy, located in Dnepropetrovsk. The investigations were concerned with phase transformations in alloys, strengthening and softening processes, diffusion processes (studied with the aid of radioactive isotopes), and certain other questions.

KAMINSKIY, E.Z.; TRAVINA, N.T.

Effect of alloying elements on the kinetics of recrystallization in nickel and nickel-chromium alloys. Issl. po zharopr. splav. 2:158-162 '57. (MIRA 11:2)

(Nickel--Metallography)
(Nickel-chromium alloys--Metallography)

KAMINSKIY, E.Z.; ROZENBERG, B.M.; TRAVINA, N.T.

Studying the kinetics of recrystallization in chromium-nickel-cobalt alloys. Issl. po zharopr. splav. 2:181-185 '57. (MIRA 11:2)
(Chromium-nickel-cobalt alloys--Metallography)

TRAVINA, N.T.

137-58-5-10583

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 5, p 244 (USSR)

AUTHORS: Kaminskiy, E.Z., Travina, N.T.

TITLE: Effect of Alloying Elements on the Kinetics of Recrystallization of Nickel and Chromium-nickel Alloys (Vliyaniye legiruyushchikh elementov na kinetiku rekristallizatsii nikelya i nikel'-khromovykh splavov)

PERIODICAL: V sb.: Issled. po zharoprochn. splavam. Vol 2. Moscow, AN SSSR, 1957, pp 158-162

ABSTRACT: A study is made of the effect of alloying elements on the kinetics of the recrystallization (R) of Ni and Ni-Cr alloys with the purpose of defining the tendency of these materials to soften at elevated temperatures. Determination of onset of R was by X-ray; i.e. by the appearance of spots on X-rays taken in Fe and Cr irradiation in cylindrical tubes of 57.3 mm diam. Cr irradiation was employed for alloys containing significant amounts of Cr. The Ni contents of the alloys varied from 64 to 99%. The composition of most of the binary alloys was determined on the basis of addition of 1-2 atomic % of the alloying element. The alloys were smelted in a 5-kilogram high-frequency furnace and were

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Effect of Alloying Elements (cont.) 137-58-5-10583

poured as bars. These were then cold-rolled to strips of 5 mm thickness. The binary alloys were all subjected to 66% deformation, while the ternary and more complex alloys were subjected to 20% reduction. Specimens measuring 15x8x5 mm were made from the strips. and were heated to 400 to 950°C. The specimens were etched in a mixture of HNO_3 and perhydrol before X-ray. It is shown that elements such as Ti and W raise the R temperature of Ni. Within the interval investigated, Fe and Al do not affect the R temperature of Ni. Addition of up to 1.5 atomic % Mo has no effect. but greater concentrations raise the R temperature. Addition of Cr of up to 2 atomic % reduces the R onset temperature of Ni, but further increase in Cr content causes the R temperature to rise significantly. When up to 60 atomic % Co is added to Ni, the R temperature diminishes significantly, a particularly pronounced diminution being observed at Co strengths of up to 3 atomic %. A study of the kinetics of the R of Ni-Cr alloys with various additions shows that the R temperature is lower in alloys with higher C contents. Addition of Al in the quantities investigated (up to 4%) does not affect the R temperature. The highest R onset temperature is shown by alloys with joint additions of Ti, W, and Mo.

1. Nickel alloys--Crystallization 2. Chromium nickel alloys --Crystalization 3. Alloys--Metallurgical effects

Card 2/2

L. G.

TRAVINA, N.T.

KURDYUMOV, G.V., akademik; TRAVINA, N.T.

X-ray investigation of interatomic interaction in nickel-base solid solutions. Probl. metalloved. i fiz. met. no.4:402-407 '55.
(Solutions, Solid)
(X rays--Industrial applications) (MIRA 11:4)

TRAVINA, N. T.

KAMINSKIY, E.Z., kand.fiz.-mat.nauk; ROZENBERG, V.M., kand.tekhn.nauk; TRAVINA, N.T., kand.fiz.-mat.nauk

Effect of alloying elements on the kinetics of recrystallization of nickel, nickel-chromium, and nickel-chromium-cobalt alloys. Probl. metalloved. i fiz. met. no.5:503-513 '58. (MIRA 11:4)
(Nickel alloys) (Solidification)

TRAVINA, N T

USSR/Metals - Aging

FD-3033

Card 1/1 Pub. 153 - 2/23

Author : Kurdyumov, G. V.; Travina, N. T.

Title : Variations in the intensity of x-ray interferences during aging of nickel-chromium-titanium-aluminum alloy

Periodical : Zhur. tekh. fiz., 25, February 1955, 182-187

Abstract : The authors confirm the notion that in the supercooled solid solution even before the beginning of decay proper of the solid solution with the formation of second-phase particles there occur within the solid solution processes that change the distribution of atoms in the lattice of the crystals of the solid solution which coherently scatter x-rays similarly to a homogeneous solid solution, this process in aluminum alloys being called natural aging in as much it proceeds at room temperature; in the investigated alloy it proceeds at a considerably higher temperature (500-600°) in correspondence with the stronger interatomic bonds and consequently with the less mobility of the atoms. Seven references.

Institution : --

Submitted : July 19, 1954

BAGARYATSKIY, Yu.A.; TRAVINA, N.T.

Orientation of phases separating during aging of the alloys nickel-beryllium and copper-beryllium. Kristallografiia 7 no.1:128-133 Ja-F '62. (MIRA 15:2)

1. Institut metallovedeniya i fiziki metallov i TSentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii.
(Nickel-beryllium alloys--Metallurgy)
(Copper-beryllium alloys--Metallurgy)
(Crystallography)

BAGARYATSKIY, Yu.A. (Moskva); NOSOVA, G.I. (Moskva); TRAVINA, N.T. (Moskva)

X-ray investigation of the decomposition of solid solutions in copper-nickel-cobalt alloys. Izv. AN SSSR. Otd. tekh. nauk. Met. i gor. delo no.3:154-161 My-Je '63. (MIRA 16:7)
(Copper-nickel-cobalt alloys--Metallography)

COUNTRY : USSR
CATEGORY : Cultivated Plants. Fruits. Berries. Nuts. Tea. M
ABS. JOUR. : RZhBiol., No. 1, 1959, No. 1778
AUTHOR : Kodurallyy, T.; Kravina, O.
INST. : -
TITLE : Ryegrass and Grass Mixtures for Irrigated Orchards.

ORIG. PUB. : Vinogradarstvo i sadovodstvo Kryma, 1957, No.2, 28-30
ABSTRACT : In many Crimean fruit-irrigated orchards, particularly when the space between the rows is filled with vegetable plants for a prolonged time, a woody pericarp dense layer " the plowed underbottom " is formed in the sub-tillable horizon. It can be broken down by way of seeding in the garden soil with herbaceous-leguminous grass mixture. A better grain mixture for this purpose in irrigated fruit-bearing orchards of the Crimea appears to be ryegrass with lucerne.

CARD: 1/1

ORLEANSKIY, B. D. (Leningrad); TRAVINA, O. N. (Leningrad)

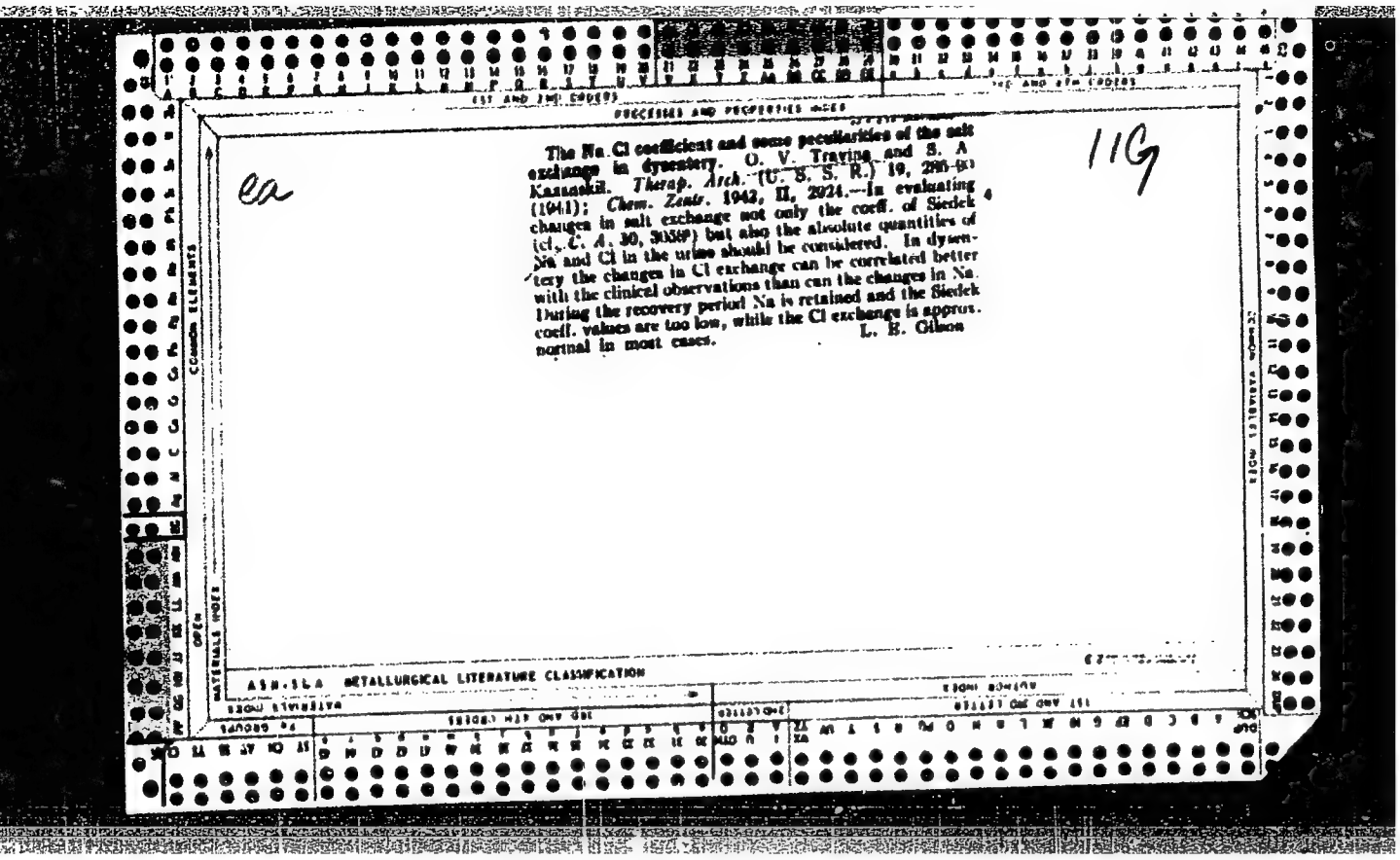
Studying the second law of electrolysis. Fiz. v shkole 22 no.4:88 Jl-Ag '62. (MIRA 15:10)

(Electrolysis)
(Physics—Study and teaching)

TRAVINA, O.V.

TRAVINA, O.V.

[Guide to biochemical research; aids for laboratory physicians] Rukovodstvo po biokhimicheskim issledovaniiam, posobie dlia vrachei-laborantov. Moskva, Medgiz, 1955. 319 p.
(Biochemistry) (MLRA 8:11)



The Na Cl coefficient and some peculiarities of the salt exchange in dysentery. O. V. Traving and S. A. Kazanskii. *Therap. Arch.* (U. S. S. R.) 19, 280-90 (1941); *Chem. Zentr.* 1942, II, 2024.—In evaluating changes in salt exchange not only the coeff. of Sieder (cf. *C. A.* 30, 3038⁹) but also the absolute quantities of Na and Cl in the urine should be considered. In dysentery the changes in Cl exchange can be correlated better with the clinical observations than can the changes in Na. During the recovery period Na is retained and the Sieder coeff. values are too low, while the Cl exchange is approx. normal in most cases. L. E. Gibson

TRAVINA, OL'GA VENIAMINOVNA

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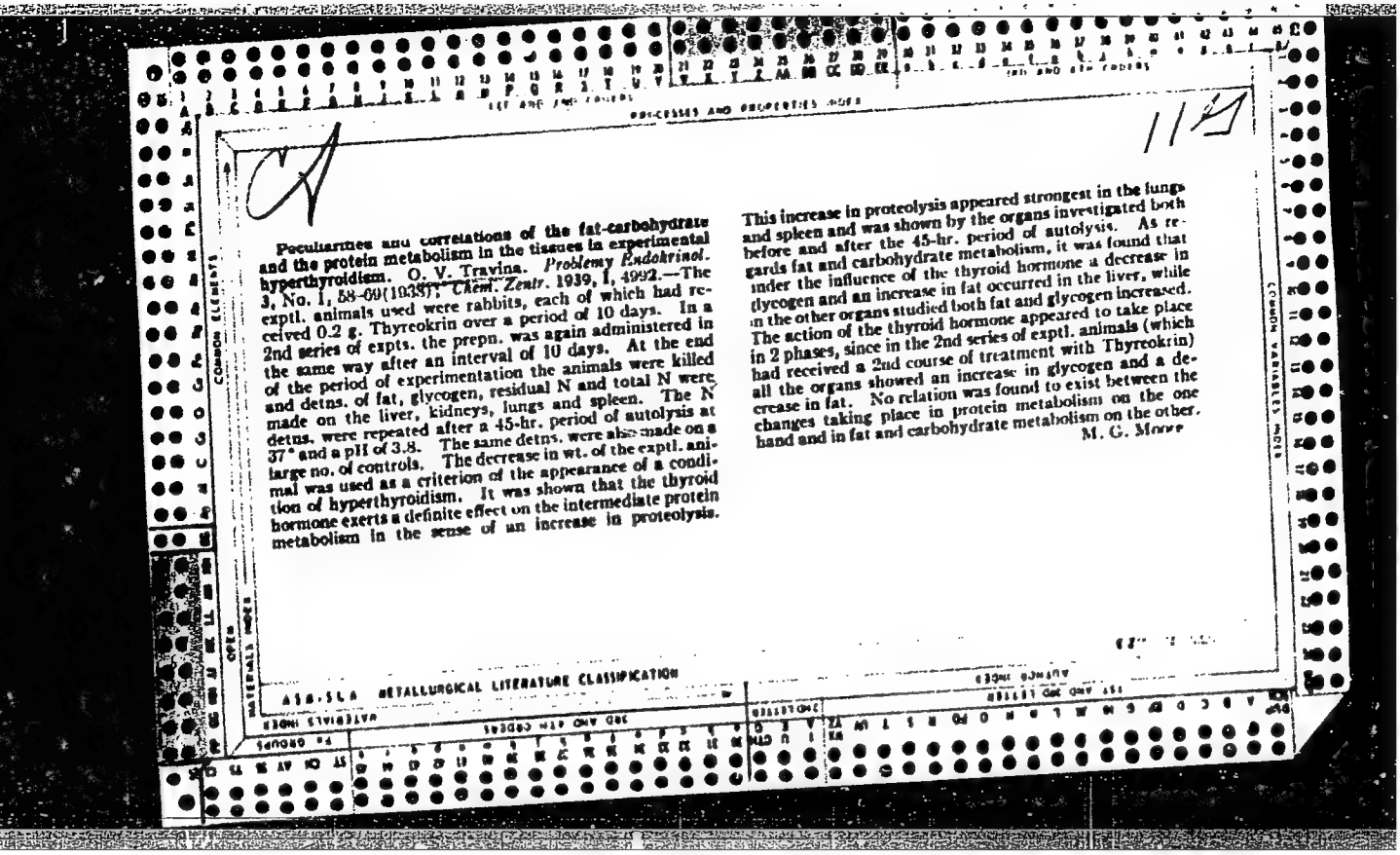
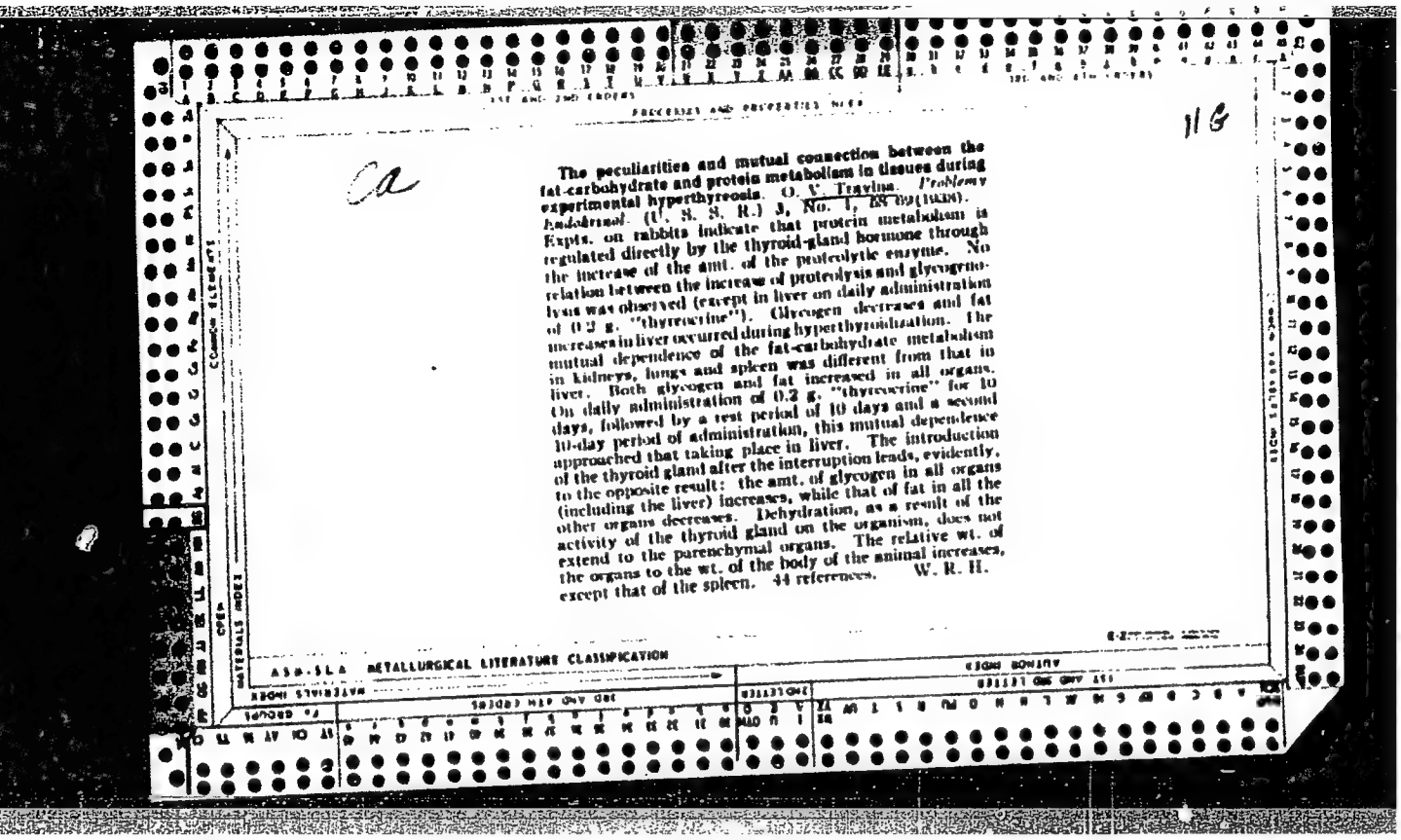
RUKOVODSTVO PO BIOKHIMICHESKIM ISSLEDOVANIYAM (HANDBOOK FOR BIOCHEMICAL RESEARCH) MOSKVA, MEDGIZ, 1955.

319 P. DIAGRS., TABLES.



Peculiarities and correlations of the fat-carbohydrate and the protein metabolism in the tissues in experimental hyperthyroidism. O. V. Travina. *Problemy Endokrinol.* 3, No. 1, 58-69(1939); *Chem. Zentr.* 1939, I, 4992.—The exptl. animals used were rabbits, each of which had received 0.2 g. Thyreokrin over a period of 10 days. In a 2nd series of expts. the prepn. was again administered in the same way after an interval of 10 days. At the end of the period of experimentation the animals were killed and detns. of fat, glycogen, residual N and total N were made on the liver, kidneys, lungs and spleen. The N detns. were repeated after a 45-hr. period of autolysis at 37° and a pH of 3.8. The same detns. were also made on a large no. of controls. The decrease in wt. of the exptl. animal was used as a criterion of the appearance of a condition of hyperthyroidism. It was shown that the thyroid hormone exerts a definite effect on the intermediate protein metabolism in the sense of an increase in proteolysis. This increase in proteolysis appeared strongest in the lungs and spleen and was shown by the organs investigated both before and after the 45-hr. period of autolysis. As regards fat and carbohydrate metabolism, it was found that under the influence of the thyroid hormone a decrease in glycogen and an increase in fat occurred in the liver, while in the other organs studied both fat and glycogen increased. The action of the thyroid hormone appeared to take place in 2 phases, since in the 2nd series of exptl. animals (which had received a 2nd course of treatment with Thyreokrin) all the organs showed an increase in glycogen and a decrease in fat. No relation was found to exist between the changes taking place in protein metabolism on the one hand and in fat and carbohydrate metabolism on the other.

M. G. *Moore*



The peculiarities and mutual connection between the fat-carbohydrate and protein metabolism in tissues during experimental hyperthyreosis. O. V. Trayina. *Problemy Endokrinol.* (U. S. S. R.) 3, No. 1, 89-99(1938).
Expts. on rabbits indicate that protein metabolism is regulated directly by the thyroid-gland hormone through the increase of the amt. of the proteolytic enzyme. No relation between the increase of proteolysis and glycogenolysis was observed (except in liver on daily administration of 0.2 g. "thyreocrine"). Glycogen decreases and fat increases in liver occurred during hyperthyroidization. The mutual dependence of the fat-carbohydrate metabolism in kidneys, lungs and spleen was different from that in liver. Both glycogen and fat increased in all organs. On daily administration of 0.2 g. "thyreocrine" for 10 days, followed by a rest period of 10 days and a second 10-day period of administration, this mutual dependence approached that taking place in liver. The introduction of the thyroid gland after the interruption leads, evidently, to the opposite result: the amt. of glycogen in all organs (including the liver) increases, while that of fat in all the other organs decreases. Dehydration, as a result of the activity of the thyroid gland on the organism, does not extend to the parenchymal organs. The relative wt. of the organs to the wt. of the body of the animal increases, except that of the spleen. 44 references. W. R. H.

NIKITINA, N.I.; TRAYNINA, S.S.; AEROV, M.E.

Fluid velocity field in the intertubular space of a shell-and-tube heat exchanger. Khim. prom. no.10:775-776 O '63.
(MIRA 17:6)

BUGROVA, E.M.; KAKHANOVA, L.P.; KONDITEROV, V.N.; TOLSTIKOVA, N.V.; TRAVINA, T.F.

Conditions governing the sedimentation in Badkhyz in the Paleogene. Trudy VSEGEI 109:238-263 '63. (MIRA 17:7)

TRAVINA, T.F.; BUGROVA, E.M.

Cretaceous and Paleogenic sediments of the Bayram-Ali region; according to data of a study of samples from wells Nos 1 and 15. Trudy VSEGEI 109:319-331 '63. (MIRA 17:7)

TRAVINA, T.F.

Paleogene clays of the Badkhyz region. Trudy VSEGEI 46:343-348 '61. (MIRA 14:11)

(Badkhyz region--Clay)

ACCESSION NR: AP4041854 S/0139/64/000/003/0139/0143

AUTHORS: Shalimova, K. V.; Travina, T. S.; Stopachinskiy, V. B.

TITLE: Concerning the nature of optical absorption of polycrystalline films of cadmium sulfide

SOURCE: IVUZ. Fizika, no. 3, 1964, 139-143

TOPIC TAGS: thin film, sublimated film, absorption spectrum, excitation spectrum, cadmium sulfide

ABSTRACT: This is a continuation of earlier work by some of the authors (K. V. Shalimova, I. V. Karpenko, NDVSh, Radiotekhnika i elektronika, v. 2, 233, 1958; K. V. Shalimova, T. S. Travina, L. L. Golik, DAN SSSR v. 138, 1, 1961). In the present work, new data are given for thin layers of cadmium sulfide containing different amounts of cadmium atoms in excess of stoichiometric composition. The methods of preparing the films and the test procedure are briefly

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ACCESSION NR: AP4041854

described. The experiments on absorption spectra have shown that if the layer is deposited from vapor of the initial substance in which there are no free cadmium atoms or else there is an excess of sulfur atoms, then the absorption of the compounds is very small in the visible region. Such layers were prepared by sublimation without dissociation of the sulfide. The strong absorption of the visible region of the spectrum observed in some cases can be greatly reduced by heating the samples in sulfur vapor. Results are described of the absorption spectra of the films, as functions of the medium in which the initial powder was sputtered, its sublimation temperature, and the heating of the substrate on which the sample was deposited. The optical density of the compounds obtained by simultaneous sublimation of cadmium sulfide and metallic cadmium is examined, and also the influence of heat treatment of the sputtered layers in sulfur vapor. On the basis of the obtained experimental data it is concluded that the absorption of cadmium sulfide in the visible or near ultraviolet regions has an impurity character. The investigations of films produced by different methods gave practically the same results,

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which can be summarized as follows. 1. Strong absorption of CdS in the visible and the near ultraviolet region is observed only in the samples activated with cadmium. 2. Two maxima are observed in the region of impurity absorption (320 and 420 millimicrons), if the substances are made on specially heated substrates. If the substrate is heated to 450C, the maxima are located at 380 and 490 millimicrons. This indicates that the cadmium impurity in the sulfide lattice has two excitation levels. 3. In the far ultraviolet the cadmium sulfide films have a strong absorption band with a maximum at 230 millimicrons which can be shown to be due to intrinsic absorption of the cadmium sulfide. The value of the absorption coefficient (10^5--10^6 cm^{-1}) indicates that the absorption is due to direct optical transitions of the electron film in the valence band to the conduction band. Consequently, the width of the forbidden band for the direct optical transitions should be 5.3 eV. Orig. art. has: 4 figures.

ACCESSION NR: AP4041854

ASSOCIATION: Moskovskiy energeticheskiy institut (Moscow Power Engineering Institute)

SUBMITTED: 05Jan63 ENCL: 00

SUB CODE: OP, SS NR REF SOV: 007 OTHER: 002

ACCESSION NR: AP4041853 S/0139/64/000/003/0134/0139

AUTHORS: Shalimova, K. V.; Travina, T. S.; Potapov, Yu. V.; Starostin, V. V.

TITLE: Electric properties of polycrystalline cadmium sulfide films

SOURCE: IVUZ. Fizika, no. 3, 1964, 134-139

TOPIC TAGS: cadmium sulfide, thin film, sublimated film, carrier density, carrier mobility, Hall effect, electric conductivity

ABSTRACT: The purpose of the research was to study and to learn to control the electric properties of sputtered layers of cadmium sulfide. The thin polycrystalline films were obtained by evaporating nonluminescent cadmium-sulfide powder in vacuum (10^{-5}--10^{-6} mm Hg) and also in spectrally pure argon and hydrogen sulfide (0.5--1 mm Hg). The substrate was insulating and its temperature could be varied and controlled. The evaporator of the initial material could also be

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ACCESSION NR: AP4041853

varied from 500 to 1100C. The electric conductivity and the Hall effect in these film specimens were investigated as functions of the sublimation temperature of the initial substance, and also of the medium in which the films were sputtered, and the substrate temperature at the instant of condensation of the semiconductor layer on the substrate. Data are given on the electric conductivity of these layers as functions of the medium, sputtering of the initial powder, its sublimation temperature, heating of the substrate on which the specimen is deposited, and the thickness of the sample. The Hall-effect measurements of cadmium-sulfide films obtained under different technological conditions are used to calculate the mobility and density of the carriers. A connection is established between the mobility and the density or thickness of the layer. The experimental and theoretical data are compared. It is concluded that at the instant when the sulfide layer is sputtered, excess cadmium atoms penetrate into it, and these determine the dark conductivity of the sample, along with exerting an influence on the scattering of

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